



**THE DATASHEET OF  
BA679-GS18**





# RF PIN Diodes - Single in MiniMELF (SOD-80)



### FEATURES

- Wide frequency range 10 MHz to 1 GHz
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS COMPLIANT

### APPLICATIONS

- Current controlled HF resistance in adjustable attenuators

### MECHANICAL DATA

**Case:** MiniMELF (SOD-80)

**Weight:** approx. 31 mg

**Cathode band color:** black

**Packaging codes/options:**

GS18/10K per 13" reel (8 mm tape), 10K/box

GS08/2.5K per 7" reel (8 mm tape), 12.5K/box

### DESIGN SUPPORT TOOLS

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PARTS TABLE					
PART	TYPE DIFFERENTIATION	ORDERING CODE	TYPE MARKING	CIRCUIT CONFIGURATION	REMARKS
BA679	$z_r > 5 \text{ k}\Omega$	BA679-GS18 or BA679-GS08	-	Single	Tape and reel
BA679S	$z_r > 9 \text{ k}\Omega$	BA679S-GS18 or BA679S-GS08	-	Single	Tape and reel

ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25 \text{ }^\circ\text{C}$ , unless otherwise specified)				
PART	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		$V_R$	30	V
Forward continuous current		$I_F$	50	mA

THERMAL CHARACTERISTICS ( $T_{amb} = 25 \text{ }^\circ\text{C}$ , unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	on PC board 50 mm x 50 mm x 1.6 mm	$R_{thJA}$	500	K/W
Junction temperature		$T_j$	125	$^\circ\text{C}$
Storage temperature range		$T_{stg}$	-55 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ( $T_{amb} = 25 \text{ }^\circ\text{C}$ , unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 20 \text{ mA}$		$V_F$			1	V
Reverse current	$V_R = 30 \text{ V}$		$I_R$			0.05	$\mu\text{A}$
Diode capacitance	$f = 100 \text{ MHz}, V_R = 0 \text{ V}$		$C_D$			0.5	pF
Differential forward resistance	$f = 100 \text{ MHz}, I_F = 1.5 \text{ mA}$		$r_f$			50	$\Omega$
Reverse impedance	$f = 100 \text{ MHz}, V_R = 0 \text{ V}$	BA679	$z_r$	5			k $\Omega$
		BA679S	$z_r$	9			k $\Omega$
Minority carrier lifetime	$I_F = 10 \text{ mA}, I_R = 10 \text{ mA}$		$\tau$		4		$\mu\text{s}$

**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

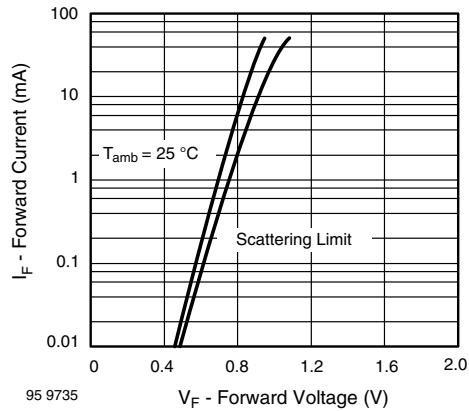


Fig. 1 - Forward Current vs. Forward Voltage

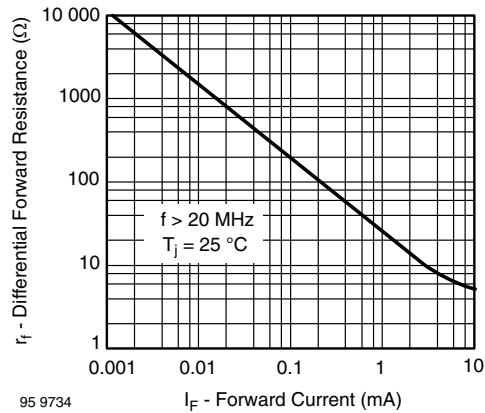


Fig. 2 - Differential Forward Resistance vs. Forward Current

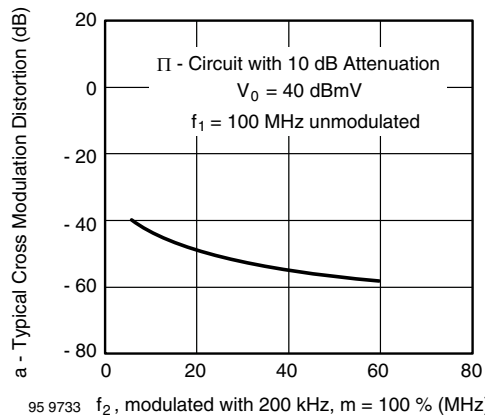
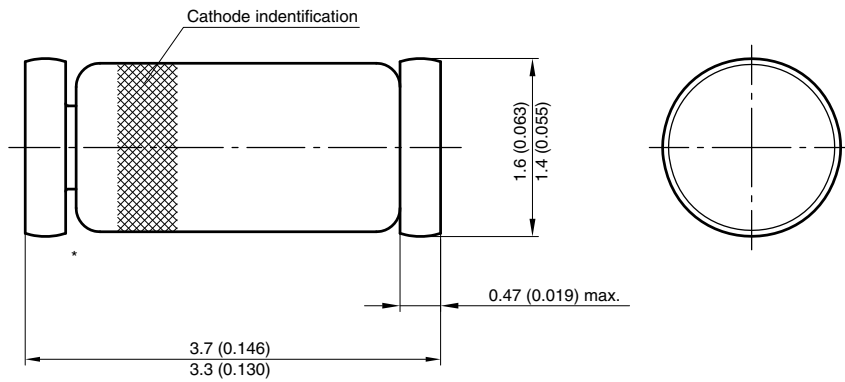


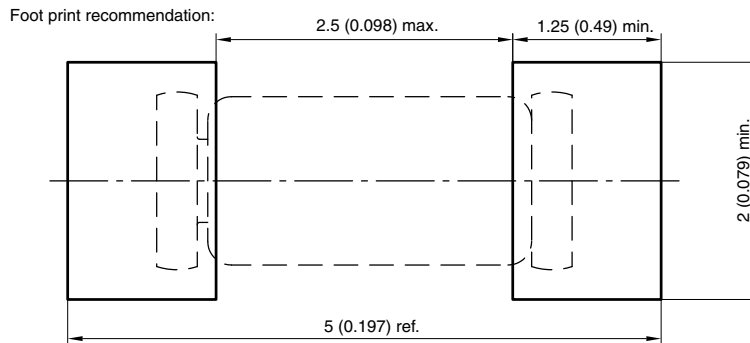
Fig. 3 - Typ. Cross Modulation Distortion vs. Frequency  $f_2$



**PACKAGE DIMENSIONS** in millimeters (inches): **MiniMELF (SOD-80)**



\* The gap between plug and glass can be either on cathode or anode side



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